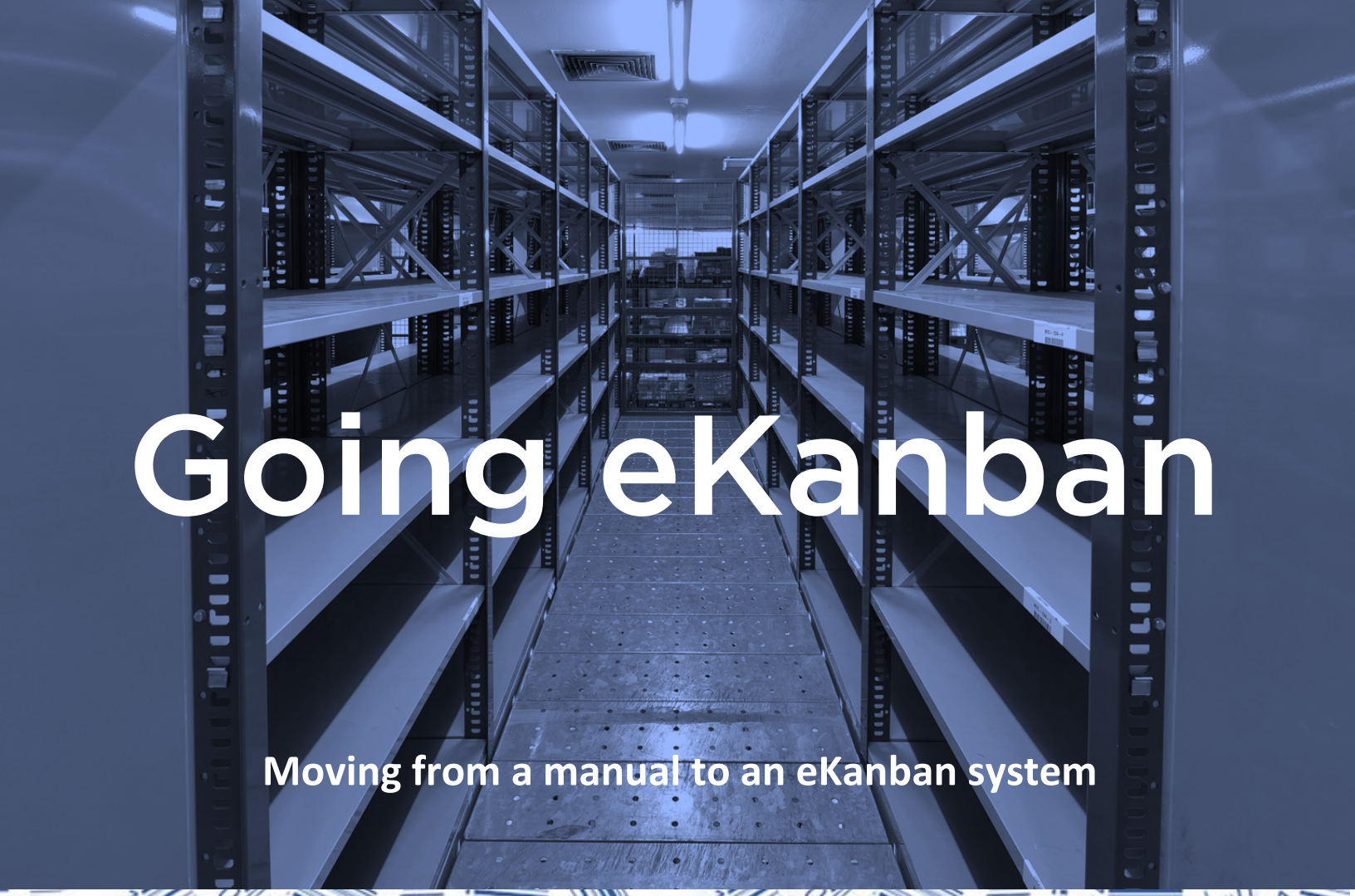


Going eKanban

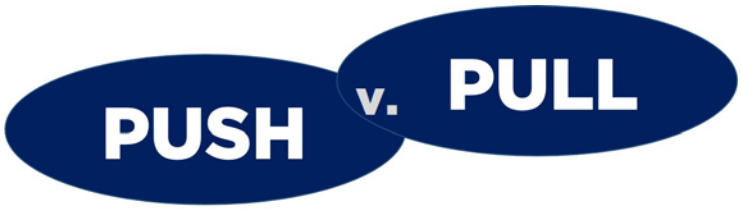
Moving from a manual to an eKanban system

Adopting a Lean, pull-based method of replenishment is the first step

Electronic Kanban (eKanban) systems can yield unparalleled inventory efficiencies without the costly consequences of lost, misplaced or damaged manual Kanban cards. Manufacturers using eKanban systems have seen inventory turns increase as much as 91 percent; lead-times decrease by a factor of six; inventory costs cut by over half; and have eliminated up to 90 percent of their former replenishment process steps.

Organizations aiming for such improvements must first generate a Lean material flow. If the enterprise operates with a push system based on prediction instead of a pull system based on actual demand (consumption), they will still struggle with excess inventory, expired materials and problematic supplier performance.

synchrono manufacturing software



Anticipate demand	Fulfill demand
Planning-centric	Customer-centric
Rigid	Flexible
Machine efficiency-based	Consumption/replenishment-based
Relies on up-front planning	Relies on real-time data
Upstream focused	Downstream focused
Excess inventory is common	Little chance of excess inventory

A comparison of the characteristics of push- and pull-based systems.

Kanban processes

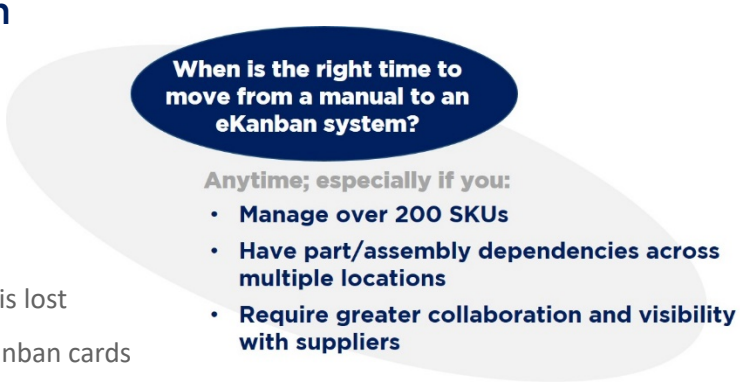
In its simplest terms, Kanban, whether electronic or manual, has two dynamics: The pull process and the supplier process. The pull process occurs when a plant location or customer takes material from the supermarket and consumes it – be it on an assembly line, at a work cell, in a warehouse or through a distribution center. The supplier process occurs when an external supplier, an internal plant location or work cell receives a Kanban signal and replenishes the material. In a linear sense, a Lean manufacturer pulls material through the supply chain, from supplier inputs to the assembly line, into finished goods and out the door to customers. eKanban, minus the physical cards, ensures there is one real-time version of the truth which can be seen by all, enterprise-wide, throughout multiple plants, onsite or offsite.

Leading and managing change

Much of the literature on Lean manufacturing extols the necessity of leadership and C-suite support. Leadership buy-in is critical to over-coming obstacles and outdated policies. It is just as critical that front-line personnel buy into the proposed Lean manufacturing changes and understand how to operate in the new environment. In doing so, plant floor personnel gain an understanding and appreciation of how eKanban software supplements and regulates material flow to match takt time.

A decade ago, many manufacturers started with a manual Kanban process, using physical cards to track consumption and replenishment. While many smaller organizations still utilize manual pull-based replenishment methods, others cannot tolerate the downside of tracking physical cards.

The death of manual Kanban



There are typical problems and distinct disadvantages of manual Kanban systems. The number one complaint by those still using a manual Kanban system (or an added rationale for moving to an eKanban system) is lost Kanban cards. Factors contributing to lost Kanban cards include supplier and process variety, high-volume and frequent replenishment transactions, poor employee training, inefficient board posting and excessive transport routes of the Kanban cards.

Missing Kanban cards are often addressed by plant floor personnel through uncontrolled card reprinting. This creates duplicate orders and nullifies the inventory control benefits. Plant floor labor cannot be blamed, however, because when Kanban cards get lost, new cards must be reprinted to secure the inventory to continue production. Unfortunately, frequently lost Kanban cards are suddenly found and inventory levels artificially increase.

As the number of parts/assemblies relying on manual Kanban replenishment increases, the process becomes more onerous and prone to error. A good rule of thumb for moving from a manual to an eKanban system is 200 SKUs. At the 200 SKU mark, managing physical cards simply becomes too complex. Other tipping points driving eKanban migration include the added complexity associated with replenishment dependencies across multiple locations, a need for greater supply chain visibility and real-time communication with suppliers.

eKanban automation ensures a steady, Lean flow of supplies, which is optimal for manufacturing and inventory levels. Production has what it needs, when it needs it, minimizing downtime associated with stock-outs or scrap due to outdated materials.

Advice for going eKanban

When implementing an eKanban system (including the design, plan, schedule, people and tools) begin with an isolated work cell or assembly line to prove the concept and work out any issues. (Synchrono® offers a free trial of SyncKanban™ eKanban software for this purpose.) This is also a good time to identify advocates who have witnessed the value of the new system and who will provide encouragement as the rollout expands across the plant and enterprise.

An eKanban system like SyncKanban™, will also provide added levels of actionable information on your material use, inventory levels, supplier performance and more. Throughout implementation, rollout and live production, look for opportunities to use insight gained from the eKanban system to supplement Lean and continuous improvement initiatives.

Lean transformations often start with eKanban

eKanban is a relatively easy way to get started on a Lean transformation – and provides dramatic returns. According to data from Quality Digest, eKanban technology reduced inventory by 51 percent at one manufacturing site while improving inventory turns from 9.6 to 17.8 percent and reducing inventory costs by 50 percent. At a second manufacturing site, lead-times were reduced from 12 weeks to two weeks, increasing revenue by millions of dollars. Inventory carrying costs plunged, this time by 55 percent. Another site reduced inventory costs by 43 percent, while a fourth slashed them by 29 percent. Through SyncKanban™ eKanban software, these plants gained an upstream perspective of their manufacturing and inventory costs and easily quantified a strong return on investment.

Companies attribute eKanban program success to a variety of factors including an enterprise-wide commitment to - and investment in - Lean continuous improvement. If you would like to learn more about the topics discussed in this paper, Synchrono offers a series of eKanban white papers and case studies at www.synchrono.com/resources.